



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,334	12/31/2003	Andrew Kisliakov	00169.002817.	8125
5514 7590 09/15/2008 FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112				
EXAMINER				
LE, MIRANDA				
ART UNIT		PAPER NUMBER		
2169				
MAIL DATE		DELIVERY MODE		
09/15/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/748,334

Applicant(s)

KISLIAKOV, ANDREW

Examiner

MIRANDA LE

Art Unit

2169

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,7-23,28-33,37,38,40,41 and 44-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,7-23,28-33,37,38,40,41 and 44-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This communication is responsive to Amendment, filed 05/20/08.

Claims 1-2, 7-23, 28-33, 37-38, 40-41, 44-46 are pending in this application.

Claims 1, 22, 37, 38, 40-41 are independent claims. This action is made Final.

The rejection of claims 37, 38 by 35 U.S.C. §101 has been withdrawn in view of the amendment.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 43-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "adjacent" in claims 43-46 is a relative term which renders the claim indefinite. The term "adjacent" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 7-10, 12-15, 17, 18, 22, 23, 28-31, 33, 37, 38, 40, 41, 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al. (US Patent No. 6,993,246), in view of Lyle (US Patent No. 6,470,359), and further in view of Nunally et al. (US Patent No. 6,035,341).

As per claim 1, Pan teaches a method of storing data, said method comprising the steps of:

storing data (*i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65*), as one or more data samples (*i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, ... event e6; event f1 event f5; See Fig. 2*), in one or more media files (*i.e. Data stream #1, Data stream #2 in Fig. 2; a digital file, col. 1, line 59 to col. 2, line 5*) configured for use by a media player application (*i.e. a media file that can*

be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27) in playing the data samples (i.e. a "data stream" is a sequence of video and audio frames read from a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27);

storing, in an index file (i.e. a data set is maintained in an index file, col. 2, lines 11-26) associated with one or more the media files, at least an offset value (i.e. positional information, col. 1, line 59 to col. 2, line 5) for each of the data samples representing a location (i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5) of each of the data samples in a corresponding one of the media files, each of the media files further comprising additional information (i.e. data pointer, time, See Fig. 2) interspersed throughout that media file (i.e. correlating data among multiple data streams based on a use of time-stamps and related positional information, col. 1, lines 46-58; See Fig. 2), the additional information comprising at least a timestamp (i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col. 2, lines 27-40) for each of the data samples (i.e. event e1, ... event e6; event f1 event f5; See Fig. 2), each of the timestamps (i.e. t1, t3, t10, t6, t8, t11, t2, t4, t5, t7, t9; See Fig. 2) indicating a capture time of an associated data sample (i.e. During a presentation of information at slide display device 580, an audio-video recording unit 585 captures details of, for example, a corresponding slide presentation including a lecturer delivering a speech. A data stream generated by the

audio-video recording unit 585 is captured for storage in a data file at data processing unit 560, col. 10, lines 39-51).

It should be noted that Pan teaches the additional information of the media file is used in constructing the index file as shown in Fig. 2 (*i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39*), wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).

The index file of Pan further comprises the offset values (*i.e. positional information, col. 1, line 59 to col. 2, line 5*) representing the location of each of the data samples in the media files (*i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5*).

Pan does not explicitly teach:

the additional information of the media files being used in reconstructing the index file upon corruption of the index file, the reconstructed index file comprising the offset values representing the location of each of the data samples in the media files, wherein the reconstructed index file replaces the index file associated with the one or more media files.

Lyle teaches:

the additional information (i.e. additional information within a space map page in a LOB table space, col. 4, line 60 to col. 5, line 6) of the media files (i.e. LOB, Large objects, such as image data, col. 2, lines 27-37) being used in reconstructing the index file (i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6) upon corruption of the index file (i.e. the index could be corrupted, col. 2, lines 38-44), the reconstructed index file comprising the offset values (i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6) representing the location of each of the data samples in the media files (i.e. The index recovery system 124 of the present invention includes additional information within a space map page in a LOB table space. In addition to recording whether a page is allocated or deallocated, the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB. Storing this information with a LOB low-level space map page enables the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space, col. 4, line 60 to col. 5, line 6).

It should be noted that the claimed invention discloses using additional information such as image information to reconstruct the index file (i.e. said image information allows for reconstruction of said index file upon corruption thereof, See Application, [0017]). Similarly, Lyle teaches using of additional information such as image information to rebuild the index.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan and Lyle at the time the invention was made to modify the system of Pan to include the limitations as taught by Lyle. One of ordinary skill in the art would be motivated to make this combination in order to recover an index on an auxiliary table in view of Lyle (col. 4, line 60 to col. 5, line 6), as doing so would give the added benefit of enabling the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space as taught by Lyle (col. 4, line 60 to col. 5, line 6).

Pan, Lyle do not explicitly teach the reconstructed index file replaces the index file associated with the one or more media files.

Nunally teaches the step of updating the index information for video and audio files (*i.e. the sequence is added to a positive result list (step 152) and the index information for the file is updated to indicate detection of the event (step 154)*). That is, *the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event detection decision, col. 10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the hard drives includes compressed video and audio data files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).*

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the system of Pan,

Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of providing an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

As per claim 22, Pan teaches a method of storing video (*i.e. video frames*, col. 11, lines 45-52) and associated text data (*i.e. textual data stream*, col. 11, lines 16-34), said method comprising the steps of:

storing the video (*i.e. video and audio data is stored on a hard disk*, col. 4, lines 58-65) associated text data (*i.e. textual data stream*, col. 11, lines 16-34), as one or more data samples (*i.e. a sequence of video and audio frames*, col. 3, lines 20-27; *event e1, ... event e6; event f1 event f5; See Fig. 2*), in one or more media files in accordance with first file format (*i.e. closed captions for video or audio content*, col. 11, lines 15-23; *Another aspect of the present invention involves correlating more than two data streams and storing related time-stamped event data pointers to a storage device for later retrieval. As previously mentioned, the time-stamps indicate a reference time when a particular event was detected while a corresponding data pointer indicates a location where data associated with that event was stored in the data file*, col. 2, lines 58-64), each media file being configured for use by a media file player application in playing the video data (*i.e. video playback system*, col. 11, lines 45-52);

storing, in a index file (*i.e. a data set is maintained in an index file, col. 2, lines 11-26*) in accordance with a second file format (*i.e. audio samples, col. 11, lines 45-52*), at least an offset value for each of the data samples (*i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, ... event e6; event f1 event f5; See Fig. 2*) representing a location of each of the one or more data samples in a corresponding one of the media files (*i.e. Another aspect of the present invention involves correlating more than two data streams and storing related time-stamped event data pointers to a storage device for later retrieval. As previously mentioned, the time-stamps indicate a reference time when a particular event was detected while a corresponding data pointer indicates a location where data associated with that event was stored in the data file, col. 2, lines 58-64*); and

adding additional information (*i.e. data pointer, time, See Fig. 2*) interspersed throughout each of the media files (*i.e. correlating data among multiple data streams based on a use of time-stamps and related positional information, col. 1, lines 46-58*), the media files including the additional information being readable by a media player application (*i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27*) corresponding at least to first file format (*i.e. video playback system ... a standard media player, col. 11, lines 45-52*), the additional information comprising at least a timestamp (*i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col. 2, lines 27-40*) for one or more of the data samples (*i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, ... event e6; event f1*

.... event f5; See Fig. 2), each of the timestamps indicating a capture time (i.e. t1, t3, t10, t6, t8, t11, t2, t4, t5, t7, t9; See Fig. 2) of an associated data sample (i.e. The principles of the present invention have applications beyond note taking, text entry, or a close captioning system. One example is a video surveillance system for an automobile parking lot. This example system uses multiple video cameras. One set of cameras record the automobiles and associated license plates at the entrance and exits. Another set of cameras record the parking area. In current video surveillance systems, cameras continuously record video on tape. This results in a waste of video recording media. A more efficient system would record, for example, only for a few seconds after a motion detector indicates when a car has entered or left the garage or parking space. This type of sporadic recording renders it difficult to determine where an event is recorded on a videotape. Even a time-stamped videotape must be searched for the appropriate time match, col. 13, line 62 to col. 14, line 9).

It should be noted that Pan teaches the additional information of the media file is used in constructing the index file as shown in Fig. 2 (i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j)), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39), wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).

The index file of Pan further comprises the offset values (*i.e. positional information, col. 1, line 59 to col. 2, line 5*) representing the location of each of the data samples in the media files (*i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5*).

Pan does not explicitly teach:

the additional information of the media files being used in reconstructing the index file upon corruption of the index file, the reconstructed index file comprising the offset values representing the location of each of the data samples in the media files, wherein the reconstructed index file replaces the index file associated with the one or more media files.

Lyle teaches:

the additional information (*i.e. additional information within a space map page in a LOB table space, col. 4, line 60 to col. 5, line 6*) of the media files (*i.e. LOB, Large objects, such as image data, col. 2, lines 27-37*) being used in reconstructing the index file (*i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6*) upon corruption of the index file (*i.e. the index could be corrupted, col. 2, lines 38-44*), the reconstructed index file comprising the offset values (*i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6*) representing the location of each of the data samples in the media files (*i.e. The index recovery system 124 of the present invention includes additional*

information within a space map page in a LOB table space. In addition to recording whether a page is allocated or deallocated, the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB. Storing this information with a LOB low-level space map page enables the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space, col. 4, line 60 to col. 5, line 6).

It should be noted that the claimed invention discloses using additional information such as image information to reconstruct the index file (i.e. said image information allows for reconstruction of said index file upon corruption thereof, See Application, [0017]).

Similarly, Lyle teaches using of additional information such as image information to rebuild the index.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan and Lyle at the time the invention was made to modify the system of Pan to include the limitations as taught by Lyle. One of ordinary skill in the art would be motivated to make this combination in order to recover an index on an auxiliary table in view of Lyle (col. 4, line 60 to col. 5, line 6), as doing so would give the added benefit of enabling the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space as taught by Lyle (col. 4, line 60 to col. 5, line 6).

Pan, Lyle do not fairly teach the reconstructed index file replaces the index file associated with the one or more media files.

Nunally teaches the step of updating the index information for video and audio files (*i.e. the sequence is added to a positive result list (step 152) and the index information for the file is updated to indicate detection of the event (step 154). That is, the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event detection decision, col. 10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the hard drives includes compressed video and audio data files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).*

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the system of Pan, Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of providing an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

As per claim 37, Pan teaches an apparatus for storing data, said apparatus comprising of:

media file generation means for storing data (*i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65*), as one or more data samples (*i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, ... event e6; event f1 event f5; See Fig. 2*), in one or more media files (*i.e. Data stream #1, Data stream #2 in Fig. 2; a digital file, col. 1, line 59 to col. 2, line 5*) configured for use by a media player (*i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27*) application in playing the data samples (*i.e. a "data stream" is a sequence of video and audio frames read from a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27*); and

index file generation means for storing, in an index file (*i.e. a data set is maintained in an index file, col. 2, lines 11-26*) associated with one or more the media files, at least an offset value (*i.e. positional information, col. 1, line 59 to col. 2, line 5*) for each of the data samples representing a location (*i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5*) of each of the data samples in a corresponding one of the media files, each of the media files further comprising additional information (*i.e. data pointer, time, See Fig. 2*) interspersed throughout that media file (*i.e. correlating data among multiple data streams based on a use of time-stamps and related positional information, col. 1,*

lines 46-58; See Fig. 2), the additional information comprising at least a timestamp (i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col. 2, lines 27-40) for each of the data samples (i.e. event e1, ... event e6; event f1 event f5; See Fig. 2), each of the timestamps (i.e. t1, t3, t10, t6, t8, t11, t2, t4, t5, t7, t9; See Fig. 2) indicating a capture time of an associated data sample (i.e. During a presentation of information at slide display device 580, an audio-video recording unit 585 captures details of, for example, a corresponding slide presentation including a lecturer delivering a speech. A data stream generated by the audio-video recording unit 585 is captured for storage in a data file at data processing unit 560, col. 10, lines 39-51).

It should be noted that Pan teaches the additional information of the media file is used in constructing the index file as shown in Fig. 2 (*i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39), wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).*

The index file of Pan further comprises the offset values (*i.e. positional information, col. 1, line 59 to col. 2, line 5) representing the location of each of the data samples in the media files (i.e. positional information indicating where data associated*

with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5).

Pan does not explicitly teach:

the additional information of the media files being used in reconstructing the index file upon corruption of the index file, the reconstructed index file comprising the offset values representing the location of each of the data samples in the media files, wherein the reconstructed index file replaces the index file associated with the one or more media files.

Lyle teaches:

the additional information (i.e. additional information within a space map page in a LOB table space, col. 4, line 60 to col. 5, line 6) of the media files (i.e. LOB, Large objects, such as image data, col. 2, lines 27-37) being used in reconstructing the index file (i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6) upon corruption of the index file (i.e. the index could be corrupted, col. 2, lines 38-44), the reconstructed index file comprising the offset values (i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6) representing the location of each of the data samples in the media files (i.e. The index recovery system 124 of the present invention includes additional information within a space map page in a LOB table space. In addition to recording whether a page is allocated or deallocated, the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a

LOB. Storing this information with a LOB low-level space map page enables the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space, col. 4, line 60 to col. 5, line 6).

It should be noted that the claimed invention discloses using additional information such as image information to reconstruct the index file (said image information allows for reconstruction of said index file upon corruption thereof, See Application, [0017]).

Similarly, Lyle teaches using of additional information such as image information to rebuild the index.

Thus, it would have been obvious to one of ordinary skill of the art having the teaching of Pan and Lyle at the time the invention was made to modify the system of Pan to include the limitations as taught by Lyle. One of ordinary skill in the art would be motivated to make this combination in order to recover an index on an auxiliary table in view of Lyle (col. 4, line 60 to col. 5, line 6), as doing so would give the added benefit of enabling the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space as taught by Lyle (col. 4, line 60 to col. 5, line 6).

Pan, Lyle do not fairly teach the reconstructed index file replaces the index file associated with the one or more media files.

Nunally teaches the step of updating the index information for video and audio files (*i.e. the sequence is added to a positive result list (step 152) and the index*

information for the file is updated to indicate detection of the event (step 154). That is, the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event detection decision, col. 10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the hard drives includes compressed video and audio data files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the system of Pan, Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of providing an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

As per claim 38, Pan teaches an apparatus for storing video data and associated text data (*i.e. textual data stream, col. 11, lines 16-34*), said apparatus comprising of:

media file generation means for storing the video data (*i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65*) and associated text data (*i.e. textual data stream, col. 11, lines 16-34*), as one or more data samples (*i.e. a sequence of video and*

audio frames, col. 3, lines 20-27; event e1, ... event e6; event f1 event f5; See Fig. 2), in one or more media files in accordance with a first file format (i.e. Data stream #1, Data stream #2 in Fig. 2; a digital file, col. 1, line 59 to col. 2, line 5), each media file configured for use by a media player application (i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27) in playing the video data (i.e. a "data stream" is a sequence of video and audio frames read from a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27);

index file generation means for storing in an index file in accordance with a second file format (i.e. a data set is maintained in an index file, col. 2, lines 11-26), at least an offset value (i.e. positional information, col. 1, line 59 to col. 2, line 5) for each of the data samples representing a location of each of the one or more data samples in a corresponding one of the media files (i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5); and

image information adding means (i.e. informational data set is generated and stored in an index file, Abstract) for adding additional information (i.e. data pointer, time, See Fig. 2) interspersed throughout each of the media files (i.e. correlating data among multiple data streams based on a use of time-stamps and related positional information, col. 1, lines 46-58; See Fig. 2), the media file comprising the additional information being readable by the media player application corresponding at least to the first file

format (*i.e.* a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27), the additional information comprising at least a timestamp (*i.e.* the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col. 2, lines 27-40) for one or more data samples (*i.e.* event e1, ... event e6; event f1 ... event f5; See Fig. 2), each of the timestamps (*i.e.* t1, t3, t10, t6, t8, t11, t2, t4, t5, t7, t9; See Fig. 2) indicating a capture time of an associated data sample (*i.e.* During a presentation of information at slide display device 580, an audio-video recording unit 585 captures details of, for example, a corresponding slide presentation including a lecturer delivering a speech. A data stream generated by the audio-video recording unit 585 is captured for storage in a data file at data processing unit 560, col. 10, lines 39-51).

It should be noted that Pan teaches the additional information of the media file is used in constructing the index file as shown in Fig. 2 (*i.e.* a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j)), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39), wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).

The index file of Pan further comprises the offset values (*i.e.* positional information, col. 1, line 59 to col. 2, line 5) representing the location of each of the data

samples in the media files (*i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5).*

Pan does not explicitly teach:

the additional information of the media files being used in reconstructing the index file upon corruption of the index file, the reconstructed index file comprising the offset values representing the location of each of the data samples in the media files, wherein the reconstructed index file replaces the index file associated with the one or more media files.

Lyle teaches:

the additional information (*i.e. additional information within a space map page in a LOB table space, col. 4, line 60 to col. 5, line 6*) of the media files (*i.e. LOB, Large objects, such as image data, col. 2, lines 27-37*) being used in reconstructing the index file (*i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6*) upon corruption of the index file (*i.e. the index could be corrupted, col. 2, lines 38-44*), the reconstructed index file comprising the offset values (*i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6*) representing the location of each of the data samples in the media files (*i.e. The index recovery system 124 of the present invention includes additional information within a space map page in a LOB table space. In addition to recording whether a page is allocated or deallocated, the index recovery system 124 indicates for*

each page in the space map page whether that page is the first page allocated to a LOB. Storing this information with a LOB low-level space map page enables the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space, col. 4, line 60 to col. 5, line 6).

It should be noted that the claimed invention discloses using additional information such as image information to reconstruct the index file (said image information allows for reconstruction of said index file upon corruption thereof, See Application, [0017]).

Similarly, Lyle teaches the using of additional information such as image information in order to rebuild the index.

Thus, it would have been obvious to one of ordinary skill of the art having the teaching of Pan and Lyle at the time the invention was made to modify the system of Pan to include the limitations as taught by Lyle. One of ordinary skill in the art would be motivated to make this combination in order to recover an index on an auxiliary table in view of Lyle (col. 4, line 60 to col. 5, line 6), as doing so would give the added benefit of enabling the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space as taught by Lyle (col. 4, line 60 to col. 5, line 6).

Pan, Lyle do not specifically teach the reconstructed index file replaces the index file associated with the one or more media files.

Nunally teaches the step of updating the index information for video and audio files (*i.e. the sequence is added to a positive result list (step 152) and the index information for the file is updated to indicate detection of the event (step 154). That is, the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event detection decision, col. 10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the hard drives includes compressed video and audio data files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).*

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the system of Pan, Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of providing an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

As per claim 40, Pan teaches a computer product comprising a computer readable medium having recorded thereon a computer program for storing data (*i.e.*

video and audio data is stored on a hard disk, col. 4, lines 58-65), said program comprising:

code for storing data (i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65), as one or more data samples (i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, ... event e6; event f1 event f5; See Fig. 2), in one or more media files configured for use by a media player application (i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27) in playing the data samples (i.e. a "data stream" is a sequence of video and audio frames read from a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27); and

code for storing in an index file associated with one or more of the media files (i.e. a data set is maintained in an index file, col. 2, lines 11-26), at least an offset value (i.e. positional information, col. 1, line 59 to col. 2, line 5) for each of the data samples representing a location (i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5) of each of the data samples in a corresponding one of the media files, each of the media files further comprising additional information (i.e. data pointer, time, See Fig. 2) interspersed throughout that media file (i.e. correlating data among multiple data streams based on a use of time-stamps and related positional information, col. 1, lines 46-58; See Fig. 2), the additional information comprising at least a timestamp (i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is

stored in the second data stream, col. 2, lines 27-40) for each of the data samples (i.e. event e1, ... event e6; event f1 event f5; See Fig. 2), each of the timestamps (i.e. t1, t3, t10, t6, t8, t11, t2, t4, t5, t7, t9; See Fig. 2) indicating a capture time of an associated data sample (i.e. During a presentation of information at slide display device 580, an audio-video recording unit 585 captures details of, for example, a corresponding slide presentation including a lecturer delivering a speech. A data stream generated by the audio-video recording unit 585 is captured for storage in a data file at data processing unit 560, col. 10, lines 39-51).

It should be noted that Pan teaches the additional information of the media file is used in constructing the index file as shown in Fig. 2 (*i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39*), wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).

The index file of Pan further comprises the offset values (*i.e. positional information, col. 1, line 59 to col. 2, line 5*) representing the location of each of the data samples in the media files (*i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5*).

Pan does not explicitly teach:

the additional information of the media files being used in reconstructing the index file upon corruption of the index file, the reconstructed index file comprising the offset values representing the location of each of the data samples in the media files, wherein the reconstructed index file replaces the index file associated with the one or more media files.

Lyle teaches:

the additional information (*i.e. additional information within a space map page in a LOB table space, col. 4, line 60 to col. 5, line 6*) of the media files (*i.e. LOB, Large objects, such as image data, col. 2, lines 27-37*) being used in reconstructing the index file (*i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6*) upon corruption of the index file (*i.e. the index could be corrupted, col. 2, lines 38-44*), the reconstructed index file comprising the offset values (*i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6*) representing the location of each of the data samples in the media files (*i.e. The index recovery system 124 of the present invention includes additional information within a space map page in a LOB table space. In addition to recording whether a page is allocated or deallocated, the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB. Storing this information with a LOB low-level space map page enables the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space, col. 4, line 60*

to col. 5, line 6).

It should be noted that the claimed invention discloses using additional information such as image information to reconstruct the index file (i.e. said image information allows for reconstruction of said index file upon corruption thereof, See Application, [0017]). Similarly, Lyle teaches the using of additional information such as image information to rebuild the index.

Thus, it would have been obvious to one of ordinary skill of the art having the teaching of Pan and Lyle at the time the invention was made to modify the system of Pan to include the limitations as taught by Lyle. One of ordinary skill in the art would be motivated to make this combination in order to recover an index on an auxiliary table in view of Lyle (col. 4, line 60 to col. 5, line 6), as doing so would give the added benefit of enabling the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space as taught by Lyle (col. 4, line 60 to col. 5, line 6).

Pan, Lyle do not fairly teach the reconstructed index file replaces the index file associated with the one or more media files.

Nunally teaches the step of updating the index information for video and audio files (*i.e. the sequence is added to a positive result list (step 152) and the index information for the file is updated to indicate detection of the event (step 154). That is, the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event detection decision, col. 10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data*

are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the hard drives includes compressed video and audio data files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the system of Pan, Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of providing an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

As per claim 41, a computer product comprising a computer readable medium having recorded thereon a computer program for storing video (*i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65*) and associated text data (*i.e. textual data stream, col. 11, lines 16-34*), said program comprising:

code for storing the video data (*i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65*) associated text data (*i.e. textual data stream, col. 11, lines 16-34*), as one or more data samples (*i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, ... event e6; event f1 event f5; See Fig. 2*), in one or more media files in accordance with a first file format (*i.e. Data stream #1, Data stream #2 in Fig. 2; a*

digital file, col. 1, line 59 to col. 2, line 5), each media file being configured for use by a media player application (i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27) in playing the video data (i.e. a "data stream" is a sequence of video and audio frames read from a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27);

code for storing, in an index file in accordance with a second file format (i.e. a data set is maintained in an index file, col. 2, lines 11-26), at least an offset value (i.e. positional information, col. 1, line 59 to col. 2, line 5) for each of the data samples representing a location of each of the one or more data samples in a corresponding one of the media files (i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5); and

code for adding (i.e. informational data set is generated and stored in an index file, Abstract) additional information (i.e. data pointer, time, See Fig. 2) interspersed throughout each of the media files (i.e. correlating data among multiple data streams based on a use of time-stamps and related positional information, col. 1, lines 46-58; See Fig. 2), the media file including the additional information being readable by the media player application corresponding at least to the first file format (i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27), the additional information comprising at least a timestamp (i.e. the time-stamps are used as an index to locate where the data associated with the

corresponding event is stored in the second data stream, col. 2, lines 27-40) for one or more data samples (i.e. event e1, ... event e6; event f1 ... event f5; See Fig. 2), each of the timestamps (i.e. t1, t3, t10, t6, t8, t11, t2, t4, t5, t7, t9; See Fig. 2) indicating a capture time of an associated data sample (i.e. During a presentation of information at slide display device 580, an audio-video recording unit 585 captures details of, for example, a corresponding slide presentation including a lecturer delivering a speech. A data stream generated by the audio-video recording unit 585 is captured for storage in a data file at data processing unit 560, col. 10, lines 39-51).

It should be noted that Pan teaches the additional information of the media file is used in constructing the index file as shown in Fig. 2 (*i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39*), wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).

The index file of Pan further comprises the offset values (*i.e. positional information, col. 1, line 59 to col. 2, line 5*) representing the location of each of the data samples in the media files (*i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5*).

Pan does not explicitly teach:

the additional information of the media files being used in reconstructing the index file upon corruption of the index file, the reconstructed index file comprising the offset values representing the location of each of the data samples in the media files, wherein the reconstructed index file replaces the index file associated with the one or more media files.

Lyle teaches:

the additional information (*i.e. additional information within a space map page in a LOB table space, col. 4, line 60 to col. 5, line 6*) of the media files (*i.e. LOB, Large objects, such as image data, col. 2, lines 27-37*) being used in reconstructing the index file (*i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6*) upon corruption of the index file (*i.e. the index could be corrupted, col. 2, lines 38-44*), the reconstructed index file comprising the offset values (*i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6*) representing the location of each of the data samples in the media files (*i.e. The index recovery system 124 of the present invention includes additional information within a space map page in a LOB table space. In addition to recording whether a page is allocated or deallocated, the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB. Storing this information with a LOB low-level space map page enables the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space, col. 4, line 60*

to col. 5, line 6).

It should be noted that the Applicants invention discloses using additional information such as image information in order to reconstruct the index file (i.e. said image information allows for reconstruction of said index file upon corruption thereof, See Application, [0017]).

Similarly, Lyle teaches the using of additional information such as image information in order to rebuild the index.

Thus, it would have been obvious to one of ordinary skill of the art having the teaching of Pan and Lyle at the time the invention was made to modify the system of Pan to include the limitations as taught by Lyle. One of ordinary skill in the art would be motivated to make this combination in order to recover an index on an auxiliary table in view of Lyle (col. 4, line 60 to col. 5, line 6), as doing so would give the added benefit of enabling the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space as taught by Lyle (col. 4, line 60 to col. 5, line 6).

Pan, Lyle do not fairly teach the reconstructed index file replaces the index file associated with the one or more media files.

Nunally teaches the step of updating the index information for video and audio files (*i.e. the sequence is added to a positive result list (step 152) and the index information for the file is updated to indicate detection of the event (step 154). That is, the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event detection decision, col.*

10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the hard drives includes compressed video and audio data files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the system of Pan, Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of providing an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

As to claims 2, 23, Lyle teaches the additional information is used exclusively for reconstruction of the index file (*i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6*).

As to claims 7, 28, Pan teaches the additional information comprises a resolution of an associated sample (*i.e. The consequences of latency depend upon the application and the desired time resolution at which queries are being made, col. 12, lines 46-55*).

As to claims 8, 29, Pan teaches the information of the index file comprises frame rate variation information (*i.e. video rate of 30 frames per second, col. 11, line 58 to col. 12, line 2*).

As to claims 9, 30, Pan teaches the additional information is stored as one or more dedicated samples of the media file (*i.e. FIG. 3 is a graph of sample trigger events as recorded over time according to sample data in the table of FIG. 2. According to the principles of the present invention, events in one data file are indexed to events in a second data file based on time-stamps and corresponding data pointers, col. 7, lines 10-14*).

As to claims 10, 31, Nunally teaches the media file is configured in accordance with the Microsoft AVI file format (*i.e. Both the video data and the audio data are stored in an audio/video interleave (AVI) format, col. 8, line 66 to col. 9, line 14*).

As per claim 12, Pan teaches the data is video data (*i.e. video frames, col. 11, lines 45-52*).

As per claim 13, Pan teaches the data is text data (*i.e. textual data stream, col. 11, lines 16-34*).

As per claim 14, Pan teaches the data is video data and associated text data (*i.e. closed captions for video or audio content, col. 11, lines 16-23*).

As to claims 15, 33, Pan teaches the video and associated text data are captured for security purposes (*i.e. The principles of the present invention have applications beyond note taking, text entry, or a close captioning system. One example is a video surveillance system for an automobile parking lot. This example system uses multiple video cameras. One set of cameras record the automobiles and associated license plates at the entrance and exits. Another set of cameras record the parking area. In current video surveillance systems, cameras continuously record video on tape. This results in a waste of video recording media. A more efficient system would record, for example, only for a few seconds after a motion detector indicates when a car has entered or left the garage or parking space. This type of sporadic recording renders it difficult to determine where an event is recorded on a videotape. Even a time-stamped videotape must be searched for the appropriate time match, col. 13, line 62 to col. 14, line 9*).

As per claim 17, Nunally teaches a plurality of copies of a corresponding text string are included in each text sample of the media file (*i.e. sound, image or closed-captioning analysis may be applied to a previously-recorded signal reproduced from the storage device 326 and routed to the analysis circuit 324 via a signal path 330, col. 16, line 32 to col. 17, line 2*).

As per claim 18, Nunally teaches a first copy of the text string (*i.e. sound, image or closed-captioning analysis may be applied to a previously-recorded signal reproduced from the storage device 326 and routed to the analysis circuit 324 via a signal path 330, col. 16, line 32 to col. 17, line 2*) is configured in accordance with the AVI file format (*i.e. Both the video data and the audio data are stored in an audio/video interleave (AVI) format, col. 8, line 66 to col. 9, line 14*).

As to claims 43-46, Pan teaches the additional information comprises at least a timestamp (*i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col. 2, lines 27-40*) for one or more of the data samples adjacent to the additional information (*i.e. data pointer, time, See Fig. 2*).

Claims 11, 16, 19, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al. (US Patent No. 6,993,246), in view of Lyle (US Patent No. 6,470,359), in view of Nunally et al. (US Patent No. 6,035,341), and further in view of Otsuka et al. (US Patent No. 6,065,010).

As to claims 11, 32, Pan, Lyle, Nunally do not specifically teach the index file is configured in accordance with the Apple QuickTime file format.

Otsuka teaches the index file is configured in accordance with the Apple QuickTime file format (*i.e. the data of the scenes can be recorded in a number of different formats including: the Motion Picture Experts Group (MPEG) format; the*

Quicktime format; or the Joint Photographic Experts Group (JPEG) format, col. 5, line 49 to col. 6, line 2).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Otsuka at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Otsuka. One of ordinary skill in the art would be motivated to make this combination in order to define virtual files, each virtual file is associated with a separate individual data of a group of data within a physical file in view of Otsuka (col. 6, lines 3-15), as doing so would give the added benefit of the data of accessing the virtual file rapidly and efficiently accessed without the need to search through the physical file for it as taught by Otsuka (col. 6, lines 3-15).

As per claim 16, Pan, Lyle, Nunally do not specifically teach each video sample is a separate JPEG file.

Otsuka teaches this limitation (*i.e. the data of the scenes can be recorded in a number of different formats including: the Motion Picture Experts Group (MPEG) format; the Quicktime format; or the Joint Photographic Experts Group (JPEG) format, col. 5, line 49 to col. 6, line 2).*

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Otsuka at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Otsuka. One of ordinary skill in the art would be motivated to make this combination in order to define virtual files, each virtual file is associated with a separate individual data of a group of data within a

physical file in view of Otsuka (col. 6, lines 3-15), as doing so would give the added benefit of accessing the data of the virtual file rapidly and efficiently accessed without the need to search through the physical file for it as taught by Otsuka (col. 6, lines 3-15).

As per claim 19, Pan, Lyle, Nunally do not specifically teach a second copy of the text string is configured in accordance with the QuickTime file format.

Otsuka teaches this limitation (*i.e. the data of the scenes can be recorded in a number of different formats including: the Motion Picture Experts Group (MPEG) format; the Quicktime format; or the Joint Photographic Experts Group (JPEG) format, col. 5, line 49 to col. 6, line 2*).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Otsuka at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Otsuka. One of ordinary skill in the art would be motivated to make this combination in order to define virtual files, each virtual file is associated with a separate individual data of a group of data within a physical file in view of Otsuka (col. 6, lines 3-15), as doing so would give the added benefit of accessing the data of the virtual file rapidly and efficiently without the need to search through the physical file for it as taught by Otsuka (col. 6, lines 3-15).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al. (US Patent No. 6,993,246), in view of Lyle (US Patent No. 6,470,359), in view

of Nunally et al. (US Patent No. 6,035,341), and further in view of Gutfreund et al. (US Patent No. 6,665,835).

As per claim 20, Pan, Lyle, Nunally do not specifically teach the step of inserting one or more empty samples into the media file to compensate for any missed samples.

Gutfreund teaches this limitation (*i.e. A reference for the timer concerning where in the video stream the event occurs is maintained by creating a series of predetermined time stamps in the video stream. That is, a time stamp is created every second with no component or event associated therewith. The granularity of such predetermined time stamps is determined according to the specific application requirements, col. 8, line 61 to col. 8, line 14*).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Gutfreund at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Gutfreund. One of ordinary skill in the art would be motivated to make this combination in order to create a series of predetermined time stamp in the video stream in view of Gutfreund (col. 8, line 61 to col. 8, line 14), as doing so would give the added benefit of providing a real-time multimedia journaling application that is editable by a user to add other synchronized events as taught by Gutfreund (col. 2, lines 34-36).

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al. (US Patent No. 6,993,246), in view of Lyle (US Patent No. 6,470,359), in view

of Nunally et al. (US Patent No. 6,035,341), and further in view of Abbott et al. (US Patent No. 6,654,933).

As per claim 21, Pan, Lyle, Nunally do not teach the index file contains a track referencing at least the media file.

Abbott teaches this limitation (*i.e. the audio and video tracks of a movie, col. 5, lines 3-27*).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Abbott at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Abbott. One of ordinary skill in the art would be motivated to make this combination in order to encode the audio and video tracks and store in a file in view of Abbott (col. 4, lines 3-27), as doing so would give the added benefit of synchronization method including constructing a base atom index file that contains base atom index boundaries as taught by Abbott (col. 2, lines 45-54).

Response to Arguments

Applicant's arguments filed 05/20/2008 have been fully considered but they are not persuasive.

a. Pan does teach storing data, as one or more data samples, in one or more media files configured for use by a media player application in playing the data samples, and each of the media files further comprising additional

information interspersed throughout that media file, the additional information comprising at least a timestamp for one or more of the data samples.

First, the limitation data samples - as described in the instant specification, paragraph [0019], comprises video data and text data.

The independent claim should be amended to specify "data samples including video data and text data".

Second, as described in the specification, one or more data samples is (are) stored in only one media file as shown in Figs 4a, b, AVI.TM. File. However, the claim language recites storing one or more data samples in one or more media files.

Therefore, the plurality of sets (event, data ptr, time), as shown in Fig. 2 of Pan, are stored data stream #1, #2 as one or more media files limitation, wherein each set (event, data ptr, time) corresponds to a data sample limitation.

The independent claim should be amended to clarify that one or more data samples store in only one media file.

It is noted that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Specifically, Pan reads on the claimed limitations as follows:

The step of **storing data** limitation equates to "The resulting event-data pointer record is then stored in a data stream index file" of Pan (See col. 4, lines 34-49). Furthermore, Pan discloses the video and audio data is stored on a hard disk in order to play back (See col. 4, lines 58-65).

data samples of the claimed limitation equates to a sequence of video and audio frames (col. 3, lines 20-27), or a set of events (col. 3, line 62 to col. 4, line 4; See Fig. 2).

the video and associated text data limitation is taught by Pan as in col. 1, lines 45-58 (*i.e. The present invention is a novel apparatus and method generally directed towards correlating data among multiple data streams based on a use of time-stamps and related positional information. One potential application is a closed captioned system in which text is generated for display along with corresponding video data. For example, closed captions are textual transcriptions of an audio track of a television show that are displayed on a television screen at approximately the same time as corresponding video data. According to the principles of the present invention, the audio track or audio data stream can be correlated with the textual data stream to support synchronization of such streams during playback, col. 1, lines 45-58).*

media files of the claimed limitation equates to *Data stream #1, Data stream #2* in Fig. 2 or *a digital file* of Pan, See col. 1, line 59 to col. 2, line 5 (*i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5*).

a media player application limitation equates to Microsoft Windows Media Player of Pan in col. 3, lines 20-27 (*i.e. a "data stream" is a sequence of video and audio frames read from a media file that can be played back through an application such as Microsoft Windows Media Player, See Pan, col. 3, lines 20-27*).

additional information limitation equates to Ptr, time of Pan in Fig. 2.

It should be noted that the time T of Pan is a unique time stamp T to each event, See col. 4, lines 34-39 (i.e. *Sequences of event-data pointer pairs form the inputs to event-data pointer logger 250. The logger assigns a unique time stamp $T_{i,j}$ to each pair $(E_{i,j}, P_{i,j})$. The resulting event-data pointer record 152, $(E_{i,j}, P_{i,j}, T_{i,j})$, is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39).*

additional information interspersed throughout that media file limitation as shown in Fig. 2 of Pan, e.g. t_2, t_4, t_5, t_7, t_9 are interspersed throughout in data stream #2 (See Fig. 2).

b. Lyle and Nunally does teach the claimed features of “the reconstructed file replaces index file associated with the one or more media files”.

Lyle discloses an index recovery system and method including the step of rebuilding the index, this corresponds to the reconstructed file index file limitation (i.e. *when a RDBMS stores LOBs, an index may be used to access the LOBs efficiently. However, when computer systems fail, the index could be corrupted or destroyed. In this case, recovery of the index, which involves rebuilding the index, can be very time consuming because each page that was allocated to storing each LOB must be read,* col. 2, lines 38-44, Lyle).

The large objects (LOBs) of Lyle with which the index associated are image data, therefore, the image data of Lyle equate to media file limitation (i.e. *a RDBMS stored*

simple data, such as numeric and text data. In a traditional RDBMS, the underlying storage management has been optimized for simple data. More specifically, the size of a record is limited by the size of a page, which is a fixed number (e.g., 4K) defined by a computer developer. This restriction in turn poses a limitation on the length of columns of a table. To alleviate such a restriction, most computer developers today support a new built-in data type for storing large objects (LOBs). Large objects, such as image data, typically take up a great deal of storage space, col. 2, lines 27-37, Lyle).

As discussed in the office action, Pan teaches the additional information of the media file is used in constructing the index file as showed in Fig. 2 (*i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39, Pan).*

Pan does not fairly teach the step of “reconstructing”.

Lyle teaches the step of reconstructed infix file limitation (*i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6, Lyle*), the index file of Lyle is associated with image data – media file limitation (*i.e. Large objects, such as image data, typically take up a great deal of storage space, col. 2, lines 27-37, Lyle).*

Lyle however does not teach the media file as video data and text data.

Nunally teaches a media file storing video data and text data sample, and an index file associated with the media file (*i.e. Alternatively, as suggested above, the results of closed captioning analysis could be utilized to index particular portions of*

interest in a TV signal stream that has previously been selected for recording, with the indexing taking place as the signal is received. Moreover, as suggested by previous discussion, sound, image or closed-captioning analysis may be applied to a previously-recorded signal reproduced from the storage device 326 and routed to the analysis circuit 324 via a signal path 330, col. 16, line 32 to col. 17, line 2, Nunally), wherein the video data incoming from the cameras in the surveillance system (col. 4, lines 1-17, Nunally) as the applicants system invention.

In response to applicant's argument that the cited references teach away from the claimed features, the Examiner disagrees. The present invention is directed to method for storing video and text data samples. Similarly, Pan is directed to method for generating audio video data set and storing in an index file for each detected trigger event. Lyle is directed to method for storing image data using index techniques for faster retrieval. Analogously, Nunally is directed to a method of storing and retrieving audio data. The three references disclose the same field as the claimed invention as video image processing. Therefore, it would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the system of Pan, Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of providing an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

The Examiner notes the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

It is further noted that Applicant's arguments against the references individually, Applicant is reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). It is a well settled rule that a reference must be considered not only for what it expressly teaches but also for what it fairly suggests. See *In re Burckel*, 592 F.2d 1175, 201 USPQ 67 (CCPA 1979) and *In re Lamberti*, 545 F.2d 747, 192 USPQ 278 (CCPA 1976) as well as *In re Bode*, 550 F.2d 656, 193 USPQ 12 (CCPA 1977) which indicates such fair suggestions to unpreferred embodiments must be considered even if they were not illustrated. Additionally, it is an equally well settled rule that what a reference can be said to fairly suggest relates to the concepts fairly contained therein, and is not limited by the specific structure chosen to illustrate such concepts. See *In re Bascom*, 230 F.2d 612, 109 USPQ 98 (CCPA 1956).

According to KSR, all claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to a skilled artisan at the time the invention was made.

c. As to claims 43-46, Pan teaches the additional information comprises at least a timestamp (*i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col. 2, lines 27-40*) for one or more of the data samples adjacent to the additional information (*i.e. data pointer, time, See Fig. 2*).

Accordingly, the claimed invention as represented in the claims does not represent a patentable over the art of record.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James K. Trujillo, can be reached on (571) 272-3677. The fax number to this Art Unit is (571)-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Miranda Le/

Primary Examiner, Art Unit 2169